UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,066	08/24/2001	Joan LaVerne Mitchell	CHA920010012US1	4252

			EXAMINER
23550	7590	12/23/2005	CHEN, WENPENG

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ART UNIT	PAPER NUMBER
2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/939,066	MITCHELL ET AL.
	Examiner	Art Unit	
	Wenpeng Chen	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _28 September 2005_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-39 and 41_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-39, 41_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _8/24/2001_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application

is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR

1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn

pursuant to 37 CFR 1.114. Applicant's submission filed on 9/28/2005 has been entered.

Examiner's responses to Applicant's remark

2.   Applicants' arguments filed on 8/30/2005 and entered with RCE on 9/28/2005

have been fully considered.

Applicant's arguments with respect to all claims and especially Claims 1, 21, 30, 39, and

41 have been considered but are moot in view of the new ground(s) of rejection due to

Applicants' amendment.

3.   The reason for rejection of Claim 41 under 35 U.S.C. 101 has been clearly spelled

out in the last office action. Applicants can overcome the rejection with including a computer

readable medium in the body of the claim.

Information Disclosure Statement

4.   Because the applicant provided a complete copy of document "Internet Image

Statements" on 8/30/2005, the Examiner considered the document as indicated in form 1449.

Claim Rejections - 35 USC § 101

5.   Claim 41 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

The main body of Claim 41 recites only program codes. Although the preamble mentions

a computer readable medium, the computer program product as required in the claim body is

program code per se.

Claim 41 is a program product. A program product is known to general public to include

broadly just a computer code stored in a memory, which is a computer readable medium, located

in a server. When a customer orders the code through Internet, the server receives the payment

and delivers the code through the Internet to the computer of the customer. Therefore, the

program product as recited in Claim 41 can be just a computer code.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by
> another filed in the United States before the invention by the applicant for patent, except that an international application
> filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed

in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7.   Claims 1-4, 11-12, and 14-19, 30-36, 38-39, and 41 are rejected under 35

U.S.C. 102(e) as being anticipated by Keller et al. (US patent application publication

2002/0102028 cited previously.)

        a.   For Claims 1-4, 11-12, and 14-19, Keller teaches a method for managing an image

of an object stored in a database, the method comprising the steps of:

        -- reducing a storage size of the image from a base level to at least one secondary level

based on the reduction criteria, wherein each secondary level is smaller in storage size than the

base level; (sections 0061-0065, 0077, 0092; See the above explanation with regard to the step

of evaluation.)

        -- wherein the step of reducing includes replacing the image with a size-reduced

image version; (paragraph 0061, especially the last 8 lines; The passage explains that the

original image is reversibly compressed and is replaced by the reversibly-compressed

image. A reversibly compressed image has smaller size of data than the original image and

is thus a size-reduced image version.)

        -- repeating the step of reducing to reduce the storage size of the **size-reduced** image

from one secondary level to another secondary level based on the reduction criteria; (sections

0061-0065, 0071, 0078-0091; The server computer 13 creates at least two versions of

secondary-level images. The compression is repeated at least twice. **In the situation that**

reversibly compressed image replaces an original image, the further reduction in data size

is done as compared with the reversibly compressed image.)

-- wherein the step of repeating occurs after expiration of a predetermined duration;

(sections 0061-0065, 0070-0071; The reducing process includes a process of deleting the original

image data S org from temporary medium 11 after a predetermined period and storing only S1

and S2. This is a storage-size reduction process.)

-- wherein the image is of a document; (section 0055; The images are medical images

that are medical documents.)

-- wherein the image includes a plurality of images; (section 0092)

-- wherein the step of reducing includes compressing the image; (section 0061)

-- wherein an initial step of reducing includes deleting a portion of the image; (section

0061; Because S1 image is irreversibly compressed, portion of image data is deleted.)

-- wherein the reduction criteria includes at least one of: available data storage, time since

object creation, time since object imaging, prior size reduction, prior access by user, object

value, user account type, volume of objects per user account, user total account value, a user

selection, user fees paid, user account history, suspicious activity and object part imaged;

(sections 0084-0091; The size-reduction criteria includes information of the doctor or group of

doctors using the images that is information of user selection.)

-- maintaining a copy of image at the base level; (section 0061 and claim 1; The original

image is stored.)

-- replacing the image at the secondary level with a copy of the image at the base level

when a user requests access to the copy of the image at the base level; (section 0080-0081; When

a base-level image is requested, image data are progressively decompressed. In the

decompressed process, the image at the last secondary level is replaced with the image at the

base level.)

-- wherein the user includes an indication of the duration that the base level will be

required when the user requests the copy of the image at the base level; (section 0071)

-- wherein a final step of reducing includes purging the image. (section 0071; At the end

of a predetermined period, the original image data are deleted (purged).))

b.   For Claims 30-36 and 38, Keller teaches a system for managing storage size of an

image of an object where the image is accessed by a user online (Fig. 1), the system comprising:

-- a size-reduction evaluator to periodically evaluate whether the image is subject to a

size reduction based on size-reduction criteria; (sections 0061-0065, 0071; The server 1

evaluates each input image and bases on at least criteria set forth in sections 0064 and 0071 to

decide compression ratio and storage both influence the total image data size to be stored. The

part of the server performing the evaluation is the evaluator. sections 0063-0064, 0077, 0092;

Section 0064 teaches that "Accordingly, depending on the input modality 4 by which original

image data S org was obtained, the part on which an examination was conducted or the method

of examination, the compression ratio of irreversible compressed image data can be changed."

Section 0092 further teaches that "Further, for cases in which image quality parameters and/or

usage purpose parameters have been assigned to image data S, *the version of the data group* to

be acquired *can be specified according to* the image quality parameter and/or usage purpose

parameter.")

-- a size reducer to reduce the size of the image based on instructions from the size-

reduction evaluator and to replace the image with a size-reduced image version; (sections 0061-

0065; The server 1 evaluates each input image and bases on at least criteria set forth in section

0064 to decide compression ratio. The part of the server performing the compression is the size

reducer. **The passage, in paragraph 0061, especially the last 8 lines, explains that the**

original image is reversibly compressed and is replaced by the reversibly compressed

image. A reversibly compressed image has smaller size of data than the original image and

is thus a size-reduced image version.)

-- a designator to assign the image a designation indicative of the status of the image

based on the size-reduction criteria; (sections 0065-0066; At least there are three versions. The

part of the server labeling the version is the designator.)

-- wherein the size-reduction criteria includes at least one of: prior size-reduction, prior

access by user, object value, user account type, volume of objects in user account, user total

account value, a user selection, user fee paid, user account history and object side imaged;

(sections 0084-0091; The size-reduction criteria includes information of the doctor or group of

doctors using the images that is information of user selection.)

-- wherein the size-reduction criteria includes real-time factors including at least one of:

available data storage, suspicious activity, time since object creation and time since object

imaging; (sections 0071, 0084-0091; The size-reduction criteria includes information of memory

size of the computer that is information of available data storage. The image data S is deleted

after a predetermined period of time.)

-- a storage module to save a substantially lossless quality version of the image; (section

0061; Both original image data S org and reversible-compressed image data of S can be stored.

Both have lossless quality.)

-- wherein the size-reduction evaluator determines whether to leave the image alone,

reduce the storage size of the image or purge the image; (sections 0061-0065, 0071; claim 1)

-- wherein a first activation of the size reducer purges an image portion of the image;

(sections 0061-0065, 0071; The irreversible compression deletes portions of image data thus

purging an image portion of the image.)

-- wherein the size-reduction evaluator determines a reduction/purging rule to be

followed by the size reducer based on the reduction criteria. (sections 0061-0065, 0071; See

explanation above.)

c.   The above-cited passages also teach the system of Claim 39.

d.   With regard to Claim 41, Keller teaches that server computer 13 performs all the

above-cited functions. Server computer 13 inherently comprises a computer readable medium

having computer readable program code embodied therein to carry out the above-cited functions.

Therefore, Keller also teaches Claim 41.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

    (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that
the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary
skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the
invention was made.

9.   Claims 21-23 and 25-29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Keller et al. (US patent application publication 2002/0102028) in view of

Morris et al. (US patent 5,153,936 cited previously.)

As discussed above with regard to Claims 1-4, 11-12, and 14-19, 30-36, and 38-40,

Keller teaches a method and system of managing storage size of an image of an object, wherein

the image is accessed by a user, the method comprising the steps of:

-- reducing the storage size of the image based on reduction criteria to create a size-

reduced version, the size-reduced version replacing the image;

-- wherein the step of reducing includes compressing the image;

-- wherein the image is in a compressed format and the step of reducing includes

achieving more compression;

-- wherein an initial step of reducing includes deleting a portion of the image;

-- wherein the reduction criteria includes at least one of: available data storage, time since

object creation, time since object imaging, prior size-reduction, prior access by user, object

value, user account type, volume of objects per user account, user total account value, user

selections, user fees paid, user account history, suspicious activity and object side imaged;

-- maintaining a substantially lossless quality version of the image;

-- allowing the user to access the substantially lossless quality version upon request;

-- wherein a final step of reducing includes purging the image.

Keller teaches that the method further comprises:

-- **allowing user access to the original image data from the high readout-speed**

capable storage medium for a predetermined duration, wherein (1) when the original

image data are required, the original image data are copied from archive to temporary

storage medium 11 and (2) in one situation, the original image is converted to a reversibly-

compressed image version as taught in 0061. (sections 0060-0061 and 0070-0072)

However, Keller does not explicitly teach the steps of allowing and repeating recited in

Claim 21.

Morris teaches:

-- allowing user access to a size-reduced version for a predetermined duration; (column 7,

lines 11-50)

-- repeating steps of reducing and allowing after expiration of the predetermined duration.

(column 9, lines 37-53)

It is desirable to release memory of high readout-speed capable storage medium for

storing new data in high readout-speed capable storage medium by deleting data that have not

been generated for an aging period. It would have been obvious to one of ordinary skill in the art,

at the time of the invention, to apply Morris' teaching to delete Keller's image data S1 and S2

from the high readout-speed capable storage medium and regenerate the S1 and S2 upon request

after the predetermined period, because the combination makes better use of the high readout-

speed capable storage medium. The combination thus teaches the steps of:

-- allowing user access to the size-reduced version for a predetermined duration;

-- repeating the steps of reducing and allowing after expiration of the predetermined

duration, wherein each reduction replaces a previous version. **(The combination teaches that**

after a predetermined duration the image data stored in the temporary storage medium 11

are deleted as taught by Keller in sections 0070-0072, wherein (1) when the original image

data are required again later as taught by Morris, the original image data are copied from archive to temporary storage medium 11 as taught by Keller and (2) in one situation, the original image is converted to a reversibly-compressed and irreversibly-compressed image versions as taught in 0061 as taught by Keller in sections 0060-0061. It is evidently after each selection and new request, a set of new image data versions replace their corresponding deleted versions.)

10.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US patent application publication 2002/0102028) applied to Claim 1 as discussed above, and further in view of Ishida (Japanese patent JP 09181892 A in IDS filed on 8/24/2001.)

Keller teaches the parent Claim 1 as discussed above. However, Keller does not teach the feature related to statistical data recited in Claim 20.

Ishida teaches a document storage and retrieval system and method, comprising:

-- maintaining statistical data for comparison with a criterion for compressing image data. (Figs. 3-4 and the attached English summary; The data are discriminated to be whether frequently used or not. This discrimination inherently needs statistical data of the number of usage.)

It is desirable to speed up image retrieval and display. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Ishida's teaching to maintain statistical data of the number of usage of Keller's image as a criterion for deciding data reduction, because the combination speeds up image retrieval and display of frequently-used images. The combination thus teaches the step of:

-- maintaining statistical data for comparison with the reduction criteria.

11.   Claims 5-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Keller et al. (US patent application publication 2002/0102028) applied to Claim 1 as

discussed above, and further in view of Takayama (US patent 5,970,176 cited previously.)

Keller teaches the parent Claim 1 as discussed above. Keller further teaches:

-- wherein the compressed format is a JPEG baseline compression format; (section 0029;

JPEG and progressively expandable compression are used in different embodiments. Therefore,

one approach uses a JPEG baseline compression format.)

-- wherein a first secondary level exhibits lower image quality compared to the base level

and a second secondary level exhibits lower image quality compared to the first secondary level;

(sections 0061-0065)

-- wherein the at least two secondary levels includes at least three secondary levels; and a

third secondary level exhibits lower image quality compared to the second secondary level.

(section 0061; claim 1;There are uncompressed original image data, reversible compressed

image data and S1 and S2 irreversible compressed image data. Quality of S2 is lower than that of

S1.)

However, Keller does not teach the feature related to different Q-tables recited in the

listed claims.

Takayama teaches a method and system for generating image data of various compressed

levels for network communication, comprising:

-- using JPEG compression; (Fig. 4)

-- wherein a base level is a compressed format and each secondary level has a different

Q-table than the base level and the at least one secondary level includes at least two secondary

levels, each secondary level having a different Q-table than every other secondary level. (column

3, lines 25-63; Fig. 6A1; Three Q-tables that are fine, standard, and course are used for various

compression levels.)

It is desirable to have flexibility of generating image data of various compression levels.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to

apply Takayama's teaching to quantize Keller's image with different Q-tables for generating

image data of various levels, because the combination provides flexibility of generating image

data of various compression levels.

12.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Keller et al. (US patent application publication 2002/0102028) and Takayama

(US patent 5,970,176) applied to Claim 5 as discussed above, and further in view of Sato et al.

(US patent application publication 20020003905 cited previously.)

The combination of Keller and Takayama teaches the parent Claim 5 as discussed above.

However, the combination does not teach the feature related to JPEG2000 recited in the

listed claim.

Sato teaches image compression for file management comprising the feature:

-- wherein the compressed format is a JPEG 2000 compression format. (sections 82 and

245)

It is desirable to have flexibility of controlling, transmitting, and displaying compressed image data over various systems. It is well known JPEG 2000 compression provides such flexibility. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to extend Sato's JPEG2000 compression to compress Keller's image, because the combination provides the above-stated flexibility.

13. Claims 13 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US patent application publication 2002/0102028) applied to Claims 1 and 30 as discussed above, and further in view of Takayama (US patent 5,970,176) and Christopoulos et al. (US patent 6,526,099 cited previously.)

Keller teaches the parent Claims 1 and 30 as discussed above.

However, Keller does not teach the feature related to decoding compressed data, Q-tables, and recoding recited in the listed claims.

Takayama teaches selecting various Q-tables as discussed above. The advantage of combining Keller's and Takayama's teachings is also provided above.

However, the combination of Keller and Takayama does not teach the feature related to decoding compressed data and recoding recited in the listed claims.

Christopoulos teaches transcoding of compressed image data comprising the feature:

-- wherein the image is in a compressed format and the step of reducing includes entropy decoding the image, changing quantized coefficients and quantization tables, and entropy recoding the image. (Fig. 1; column 16, lines 31-52; VLD in Fig. 1 is entropy decoding. VLC_4 in Fig. 1 is entropy recoding. Quantization is change from Q_1 to Q_2,

It is desirable to be able to reprocess existed compressed medical image for improving

image retrieval. It would have been obvious to one of ordinary skill in the art, at the time of the

invention, to extend Christopoulos' transcoding approach to recompress images in the system and

method taught by the combination of Keller and Takayama, because the combination improves

image retrieval.

14.   Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Keller and Morris applied to Claim 23 as discussed above, and further in view of

Takayama (US patent 5,970,176) and Christopoulos et al. (US patent 6526099.)

The combination of Keller and Morris teaches the parent Claim 23 as discussed above.

However, the combination does not teach the feature related to decoding compressed

data, Q-tables, and recoding recited in the listed claim.

Takayama teaches selecting various Q-tables as discussed above. The advantage of

combining Keller's and Takayama's teachings is also provided above. Similar combination and

advantage are also applied to the combination of Keller, Morris, and Takayama.

However, the combination of Keller, Morris, and Takayama does not teach the feature

related to decoding compressed data and recoding recited in the listed claims.

Christopoulos teaches transcoding of compressed image data comprising the feature:

-- wherein the image is in a compressed format and the step of reducing includes entropy

decoding the image, changing quantized coefficients and quantization tables, and entropy

recoding the image. (Fig. 1; column 16, lines 31-52; VLD in Fig. 1 is entropy decoding. VLC_4 in

Fig. 1 is entropy recoding. Quantization is change from Q_1 to Q_2,

It is desirable to be able to reprocess existed compressed medical image for improving

image retrieval. It would have been obvious to one of ordinary skill in the art, at the time of the

invention, to extend Christopoulos' transcoding approach to recompress images in the system and

method taught by the combination of Keller, Morris, and Takayama, because the combination

improves image retrieval.

Conclusion

15.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Wenpeng Chen whose telephone number is 571-272-7431. The

examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone numbers for the

organization where this application or proceeding is assigned are 571-273-8300 for regular

communications and 571-273-8300 for After Final communications. TC 2600's customer service

number is 571-272-2600.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 571-272-2600.

Wenpeng Chen
Primary Examiner
Art Unit 2625

December 19, 2005